

COMMONWEALTH OF VIRGINIA  
DIVISION OF PURCHASES AND SUPPLY  
805 E. BROAD STREET  
P. O. BOX 1199  
RICHMOND, VIRGINIA 23218-1199

**NOTICE OF CONTRACT AWARD**

1. DATE ..... February 1, 2002
2. COMMODITY NAME ..... Air Navigation Equipment (NAVAIDS)
3. CONTRACT NUMBER ..... 0350401-20
4. CONTRACT PERIOD ..... February 1, 2002 through December 31, 2005
5. SUPERSEDES ..... 03504-10
6. AUTHORIZED USERS ..... Dept. of Aviation and Other Public Bodies
7. CONTRACTORS' FEIN NUMBER ..... 98-0353098
8. CONTRACTOR ..... Alenia Marconi Systems (ASI), Inc.  
11300 West 89<sup>th</sup> Street  
Overland Park, KS 66214  
DUNS # 198749777
9. CONTRACTORS' PHONE NUMBER ..... (913) 495-2692 Phone / (913) 492-0870 FAX  
E-mail: ZEIGLER@US-AMSJ8.COM
10. TERMS ..... Net 30
11. DELIVERY ..... 120 Days ARO
12. F.O.B. .... Agency
13. MINIMUM ORDER ..... None
14. FOR FURTHER CONTRACT INFORMATION CONTACT: Matt Manion  
Phone: (804) 786-2397
15. ADDITIONAL COPIES OF CONTRACTS AND ANY ASSOCIATED CONTRACT CHANGES MAY BE VIEWED AND PRINTED AT THE DPS WEBSITE: [www.dgs.state.va.us/dps](http://www.dgs.state.va.us/dps).
16. NOTICE TO DEPARTMENT OF AVIATION: This contract is the result of a competitive bid program and its use is mandatory in the purchase of the commodities. If any commodity available under this contract cannot be used by Department of Aviation, a request to purchase other goods or services of a similar nature shall be submitted to the DGS/DPS contract officer for approval. A complete and factual written justification is necessary to support the request. Refer to Section 13.7a of the Agency Procurement and Surplus Property Manual.
17. **Note:** This public body does not discriminate against faith-based organizations in accordance with the *Code of Virginia*, § 2.2-4343.1 or against a bidder or offeror because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment.

By: \_\_\_\_\_

MATT MANION  
Statewide Commodity Contract Officer

## **INSTRUCTIONS**

1. Orders. Unless otherwise instructed by the Division of Purchases and Supply, Department of Aviation may order items listed by issuing agency purchase orders (Form DPS-41-056) or by issuing their own purchase order form.

Written Purchase Orders Required by the Contractor. **When required by the contractor**, state agencies and public bodies will supply written purchase order forms for orders under \$5,000.

Verbal/Facsimile Orders. When a written purchase order is not required by the contractor, Department of Aviation has the authority to place verbal and/or facsimile orders for requirements valued at less than \$5,000.

Purchase orders will be submitted to the contractor via the Commonwealth of Virginia's electronic procurement system, also known as eVA. The orders will be governed by this agreement and the terms and conditions contained in the separate agreement for participation in eVA executed by the contractor.

2. The applicable contract number, federal employer identification number (FEI), and item number (for itemized contracts) must be shown on each purchase order and copy, each facsimile transmission or given verbally when telephonic orders are placed.
3. Inspection on delivery and approval of vendor's invoice is the responsibility of Department of Aviation.
4. Any complaint as to quality, faulty or delinquent delivery, or violation of contract provisions by contractor shall be reported to the Division of Purchases and Supply for handling with the contractor. Preprinted forms (DGS-41-024), by which to facilitate the notification of the contractor and this office of complaints, are available from the Division of Purchases and Supply (786-8873).
5. Renewals. Two (2), one year renewals remain. The decision as to whether to exercise the next renewal option will be made by the contract officer approximately four to six months in advance of the expiration date of the current term.
6. Price Adjustments. During the current term of the contract, price escalation may be allowed every 365 days, if justified. The contract officer makes the decision to allow or deny a request for increase based upon the documentation submitted by the contractor. The contractor is required to pass on any price reductions immediately. IMPORTANT! All price increases must be approved by the contract officer. Contract users will be sent a Notice of Contract Change from this office as official notification of such changes, if approved.

7. **TELEPHONE NUMBERS**

NAME OF CONTACT PERSON: DAVE ZEIGLER / SUSAN HOTCHKISS

TELEPHONE NUMBER: (913) 495-2692

FACSIMILE NUMBER: (913) 492-0870

COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF AVIATION

**SPECIFICATIONS FOR ELECTRONIC NAVIGATIONAL EQUIPMENT**

October 2, 2001

I. SCOPE OF WORK

The purpose of this Invitation for Bids (IFB) is to solicit sealed bids from qualified sources to establish a term contract with one (1) qualified firm to supply and deliver Instrument Landing System components (localizer, glide slope, and marker beacon), distance-measuring-equipment (DME), monitor receivers, spare part kits (circuit card assemblies (CCA), modules, and parts), miscellaneous spare parts, and provide technician training during the term of contract on a requirements basis for the Department of Aviation, an Agency of the Commonwealth of Virginia. Installation of equipment will be by the Department or by other parties.

II. EQUIPMENT

A. Localizer

- 1) These systems shall be complete including:
  - a. Electronics subsystem - single equipment, single frequency, single monitor suitable for category I operations. Subsystem shall provide transmitter, monitor, control, remote maintenance monitor, and power supply functions.
  - b. Antenna subsystem, (Option 1) - eight (8) element, single frequency, log-periodic dipole. Subsystem shall provide rf distribution, rf sampling, rf combining, monitor combining, suppressor networks, cable fault/antenna misalignment, cancellation bridge, inline phasing, integral course, integral width detectors, and frequency difference detector.
  - c. Antenna subsystem, (Option 2) - fourteen (14) element, single frequency, log-periodic dipole. Subsystem shall provide rf distribution, rf sampling, rf combining, monitor combining, suppressor networks, cable fault/antenna misalignment, cancellation bridge, inline phasing, integral course, integral width detectors, and frequency difference detector.
  - d. Localizer antenna cable kit - for single frequency equipment, 300-feet between antenna and shelter. Kit shall include all power, telephone, and rf transmission cables required to interface the localizer antenna array with the localizer equipment shelter .
  - e. Junction box assembly - shall include ILS transient suppressor circuit card assembly.

- f. Battery kit - for single AC power supply, shall include batteries and all equipment to provide power to the electronics subsystem in the event of commercial power failure. Shall be suitable for installation inside of equipment shelter.
- g. Personal computer - shall include computer, and all interconnect cable used to view station status and alarm history, set up station parameters, and perform troubleshooting.
- h. Software - shall include software and manuals used to view localizer station status and alarm history, set up station parameters, and perform troubleshooting.
- i. Environmental sensors kit.
- j. Remote maintenance monitoring (rmm) sensors kit.
- k. VHF antenna and installation kit - shall include rf cable and connectors.
- l. Installation drawings - shall include half-scale copies of the manufacturer's standard (non-site specific) installation drawings for the specified localizer.
- m. Two each complete localizer instruction manuals and system manuals.
- n. Any and all other standard fixtures and components not stated above but necessary to complete in place a working system as accepted by the Commonwealth.

2) These systems shall not include:

- a. Portable Instrument Landing System (ILS) Receiver's (PIR); oscilloscopes; digital voltmeters or other test equipment not necessary to be permanently dedicated to a particular system.
- b. Shelter subsystem.
- c. Far-field monitor kit.
- d. Remote control status unit (rcsu).
- e. Remote status unit (rsu).
- f. "Off-the-air" monitor receiver.
- g. Spares kits.

B. Glide Slope

1) Option 1 - This system shall be complete including:

- a. Electronics subsystem - single equipment, single frequency, single monitor suitable for category I operations. Subsystem shall provide transmitter, monitor, control, remote maintenance monitor, and power supply functions.
  - b. Antenna subsystem - null reference, single frequency. Subsystem shall provide antenna elements, antenna mounting kit, antenna civil kit, antenna installation kit, distribution unit/combining unit, and antenna tower.
- 2) Option 2 - This system shall be complete including:
- a. Electronics subsystem - single equipment, single frequency, single monitor suitable for category I operations. Subsystem shall provide transmitter, monitor, control, remote maintenance monitor, and power supply functions.
  - b. Antenna subsystem - sideband reference, single frequency. Subsystem shall provide antenna elements, antenna mounting kit, antenna civil kit, antenna installation kit, distribution unit/combining unit, and antenna tower.
- 3) Option 3 - This system shall be complete including:
- a. Electronics subsystem - single equipment, dual frequency, single monitor suitable for category I operations. Subsystem shall provide transmitter, monitor, control, remote maintenance monitor, and power supply functions.
  - b. Antenna subsystem - capture effect, dual frequency. Subsystem shall provide antenna elements, antenna mounting kit, antenna civil kit, antenna installation kit, distribution unit/combining unit, and antenna tower.
- 4) Each of the above options shall include the following:
- a. Glide Slope antenna cable kit - for single frequency equipment, 300-feet between antenna and shelter. Kit shall include all power, telephone, and rf transmission cables required to interface the glide slope antenna array with the glide slope equipment shelter.
  - b. Junction box assembly - shall include ILS transient suppressor circuit card assembly.
  - c. Battery kit - for single AC power supply, shall include batteries and all equipment to provide power to the electronics subsystem in the event of commercial power failure. Shall be suitable for installation inside of equipment shelter.
  - d. Personal computer - shall include computer, and all interconnect cable used to view station status and alarm history, set up station parameters, and perform troubleshooting.

- e. Software - shall include software and manuals used to view localizer station status and alarm history, set up station parameters, and perform troubleshooting.
- f. Environmental sensors kit.
- g. Remote maintenance monitoring (rmm) sensors kit.
- h. VHF antenna and installation kit - shall include rf cable and connectors.
- i. Installation drawings - shall include half-scale copies of the manufacturer's standard (non-site specific) installation drawings for the specified localizer.
- j. Two each complete localizer instruction manuals and system manuals.
- k. Any and all other standard fixtures and components not stated above but necessary to complete in place a working system as accepted by the Commonwealth.

5) These systems shall not include:

- a. Portable Instrument Landing System (ILS) Receiver's (PIR); oscilloscopes; digital voltmeters or other test equipment not necessary to be permanently dedicated to a particular system.
- b. Shelter subsystem.
- c. Nearfield monitor kit.
- d. Remote control status unit (rcsu).
- e. Remote status unit (rsu).
- f. "Off-the-air" monitor receiver.
- g. Spares kits.

C. Marker Beacon

1) Option 1 - this system shall be complete including:

- a. Electronics subsystem - single equipment, suitable for category I operations and suitable for outside, pole mounting. Subsystem shall provide transmitter, monitor, control, remote maintenance monitor, power supply functions, and transient suppressor functions. Antenna subsystem - dual yagi type suitable for outer marker installation, and monitor antenna. Outdoor enclosure with fan required.

- 2) Option 2 - this system shall be complete including:
  - a. Electronics subsystem - single equipment, suitable for category I operations and suitable for inside, wall mounting. Subsystem shall provide transmitter, monitor, control, remote maintenance monitor, and power supply functions. Antenna subsystem - dual yagi type suitable for outer marker installation, and monitor antenna.
  
- 3) Each of the above options shall include the following:
  - a. Marker beacon antenna cable kit - for single frequency equipment. Kit shall include all power, telephone, and rf transmission cables required to interface the marker beacon antenna array with the marker beacon equipment.
  - b. Junction box assembly - shall include ILS transient suppressor.
  - c. Battery kit - for single AC power supply, shall include batteries and all equipment to provide power to the electronics subsystem in the event of commercial power failure:
    1. Option 1 - shall be suitable for installation inside of equipment shelter, or
    2. Option 2 - shall be suitable for installation outside of equipment shelter.
  - d. Personal computer - shall include computer, and all interconnect cable used to view station status and alarm history, set up station parameters, and perform troubleshooting.
  - e. Software - shall include software and manuals used to view marker beacon station status and alarm history, set up station parameters, and perform troubleshooting.
  - f. VHF antenna and installation kit.
  - g. Environmental sensors kit,(inside option).
  - h. Installation drawings - shall include half-scale copies of the manufacturer's standard (non-site specific) installation drawings for the specified marker beacon.
  - i. Two each complete marker beacon instruction manuals and system manuals.
  - j. Any and all other standard fixtures and components not stated above but necessary to complete in place a working system as accepted by the Commonwealth.
  
- 4) These systems shall not include:
  - a. Shelter subsystem.

- b. Remote control status unit (rcsu).
- c. Remote status unit (rsu).
- d. Spares kits.

D. Glide Slope Conversion Kit

- 1) Single equipment sideband reference - kit shall include any and all equipment necessary to complete conversion.
- 2) Single equipment capture effect - kit shall include any and all equipment necessary to complete conversion.

E. Distance-Measuring-Equipment (DME)

- 1) These systems shall be complete including:
  - a. Electronics subsystem - single equipment, low power. Subsystem shall provide transponder, monitor, control and display, and power supply functions.
  - b. Antenna - omnidirectional.
  - c. DME installation kit - shall include all material necessary to install the DME collocated near field to an ILS localizer.
  - d. Transient suppressor(s).
  - e. Battery kit - for single AC power supply, shall include batteries and all equipment to provide power to the electronics subsystem and shall be suitable for installation outside of equipment shelter in the event of commercial power failure:
  - f. Personal computer - shall include computer, and all interconnect cable used to view station status and alarm history, set up station parameters, and perform troubleshooting.
  - g. Software - shall include software and manuals used to view DME station status and alarm history, set up station parameters, and perform troubleshooting.
  - h. Installation drawings - shall include half-scale copies of the manufacturer's standard (non-site specific) installation drawings for the specified DME.
  - i. Environmental sensors kit.

- j. Two each complete DME instruction manuals and system manuals.



k. Any and all other fixtures and components not stated above but necessary to complete in place a working system as accepted by the Commonwealth.

- 2) These systems shall not include:
  - a. Shelter subsystem.
  - b. Remote control status unit (rcsu).
  - c. Remote status unit (rsu).
  - d. "Off-the-air" monitor receiver.
  - e. Spares kits.

F. "Off-the-air" monitor receiver

- 1) Monitor receiver, VHF, for localizer, shall include the appropriate VHF antenna and shall be capable of receiving the localizer signal at least two (2) nautical miles (line-of-sight) from the localizer.
- 2) Monitor receiver, UHF, for glide slope, shall include the appropriate UHF antenna and shall be capable of receiving the glide slope signal at least two (2) nautical miles (line-of-sight) from the glide slope.
- 3) Monitor receiver, for DME, shall include the appropriate antenna and shall be capable of receiving the DME signal at least two (2) nautical miles (line-of-sight) from the DME.

G. Spare Part Kits

- 1) Localizer, single equipment, single frequency, single monitor, unique.
- 2) Glide slope, single equipment, single frequency, single monitor, unique.
- 3) Glide slope, single equipment, dual frequency, single monitor, unique.
- 4) Localizer/glide slope, single equipment, single frequency, single monitor, common.
- 5) Marker beacon, single equipment.
- 6) DME, single equipment, low power, spare modules kit.
- 7) DME, single equipment, low power, site spares kit.

H. Spare/Replacement Parts

Any singular spare/replacement parts as typically provided by the manufacturer.

### III. VERIFICATION TRAINING

Theory of operation and/or equipment specific training shall be provided on the Contractor's ILS and DME. FAA-approved factory training, at the Contractor's location, (option one), and at the Department's location, (option two), shall be provided within ninety (90) days of the Department's written request to train two (2) or more technicians, and within one-hundred eighty (180) days to train one (1) technician.

Provide cost breakout to show base rate plus per person costs for each option. Separate training courses on the ILS, and the DME will be provided. Training cost shall include cost of instruction and required supplies and books only. Cost of transportation, lodging, and meals of the Department's technicians under option one shall be the Department's responsibility.

### IV. EQUIPMENT APPROVALS

#### General

All ILS components (localizer, glide slope, and marker beacon) and distance-measuring-equipment (DME) shall be solid state and of proven design as demonstrated by installed and commissioned systems. The system shall be approved under Federal Aviation Regulation (FAR) Part 171 and under Annex 10 to the Convention on International Civil Aviation (ICAO).

The equipment provided must be FAA "type accepted" for Airport Improvement Program (AIP) funding, for potential "take over" by the FAA, and inclusion in the National Airspace System (NAS) as prescribed in FAA Order 6700.20A, dated December 11, 1992, "Non-Federal Navigational Aids and Air Traffic Control Facilities," chapter 4, "Assumption of Ownership of Non-Federal Facilities."

### V. DELIVERY

Equipment shall be delivered directly by the Contractor to a third party selected by the Department of Aviation. Equipment shall be delivered by the Supplier Contractor no later than one-hundred twenty (120) days following receipt of an order from the Department of Aviation.

### VI. SPECIFIC REQUIREMENTS AND SUBMITTALS

- A. Submit with bids documentation from the FAA that the equipment meets the specifications contained herein. Systems offered must be compatible and capable of interfacing with other manufacturer's systems, i.e. any other ILS functions.
- B. Submit a reference list of at least two (2) similar systems that has been installed, ground inspected, flight inspected, or commissioned by the FAA prior to the award of this contract. Provide the name, phone number and address for contact person at each location. Bidders shall make available their most recent fiscal year financial statements along with auditor's opinions, i.e., Income Statement and Balance Sheet upon request, along with a list of Company personnel with qualifications who will provide technical support for the offered systems.
- C. Submit with bid a training package. The training provided by the Contractor shall be in-depth to the extent that only "theory of operation" and "performance" examinations administered by the FAA in any given area office will be necessary for FAA verification on any and all components offered. A statement from the FAA, Eastern Region, showing approval of the Bidder's training program must accompany the bid when submitted.

	Contract No.: 0350401-20	
	Contract Period: February 1, 2002 - December 31, 2005	
	<b>Air Navigation Equipment (NAVAIDS)</b>	
<b>Item</b>	<b>Description</b>	<b>Unit Price</b>
	<b>Localizers, with all Requirements, Paragraph A.1.D through A.1.N.</b>	
20	Localizer System Electronic Mfg.: Alenia Marconi Systems (ASI) Model No.: 2100	<u>\$29,176.00/System</u>
40	<b>Option 1</b> - Antenna Subsystem Eight (8) Elements Mfg.: Alenia Marconi Systems (ASI) Model No.: 2100	<u>\$31,312.00/System</u>
60	<b>Option 2</b> - Antenna Subsystem Fourteen (14) Elements Mfg.: Alenia Marconi Systems (ASI) Model No.: 2100	<u>\$50,407.00/System</u>
	<b>Glide Slope, with all the Requirements, Paragraph B.4.A through B.4.K</b>	
	<b>Option 1</b>	
80	A. Electronic Subsystem - Single Equipment Mfg.: Alenia Marconi Systems (ASI) Model No.: 2110	<u>\$24,482.00/System</u>
100	B. Antenna Subsystem - Null Reference Mfg.: Alenia Marconi Systems (ASI) Model No.: 2110	<u>\$20,576.00/System</u>
	<b>Option 2</b>	
120	A. Electronic Subsystem - Single Equipment Mfg.: Alenia Marconi Systems (ASI) Model No.: 2110	<u>\$26,800.00/System</u>
140	B. Antenna Subsystem - Side Band Mfg.: Alenia Marconi Systems (ASI) Model No.: 2110	<u>\$20,532.00/System</u>
	<b>Option 3</b>	
160	A. Electronic Subsystem - Single Equipment Mfg.: Alenia Marconi Systems (ASI) Model No.: 2110	<u>\$31,637.00/System</u>
180	B. Antenna Subsystem - Capture Effect Mfg.: Alenia Marconi Systems (ASI) Model No.: 2110	<u>\$27,989.00/System</u>

Item	Description	Unit Price
	<b>Marker Beacon, with all Requirements, Paragraph C.3.A through C.3.J</b>	
	<b>Option 1</b>	
200	A. Electronic Subsystem - Single Equipment - Outside Mfg.: Alenia Marconi Systems (ASI) Model No.: 1130	\$ <u>8,472.00</u> /System
	<b>Option 2</b>	
220	A. Electronic Subsystem - Single Equipment - Inside Mfg.: Alenia Marconi Systems (ASI) Model No.: 1130	\$ <u>9,125.00</u> /System
	<b>Glide Slope Conversion Kit</b>	
240	Single Equipment Sideband Reference Mfg.: Alenia Marconi Systems (ASI) Model No.: 2110	\$ <u>3,141.00</u> /Kit
260	Single Equipment Capture Effect Mfg.: Alenia Marconi Systems (ASI) Model No.: 2110	\$ <u>35,350.00</u> /Kit
	<b>Distant-Measuring-Equipment (DME)</b>	
280	System Complete with the Requirements, Paragraph E.1.A through E.1.K Mfg.: Alenia Marconi Systems (ASI) Model No.: 1118	\$ <u>44,921.00</u> /Lot
	<b>Off-the-Air Monitor Receiver with the Requirements of Paragraph G.1 through G.7</b>	
300	Monitor Receiver, VHF, for Localizer Mfg.: Alenia Marconi Systems (ASI) Model No.: 1134	\$ <u>6,355.00</u> /Each
320	Monitor Receiver, UHF, for Glide Slope Mfg.: Alenia Marconi Systems (ASI) Model No.: 1134	\$ <u>6,076.00</u> /Each
340	Monitor Receiver for DME Mfg.: Alenia Marconi Systems (ASI) Model No.: 1125	\$ <u>5,640.00</u> /Each
	<b>Training</b>	
360	<b>Option 1</b> - at Contractor's Site within 90 days ILS/DME written request of two (2) or more technicians.	\$ <u>19,434.00</u> /Each
	<u>Base Rate:</u> \$ <u>17,918.00</u> <u>Cost Per Person:</u> \$ <u>758.00</u>	
370	<b>Option 2</b> - at Contractor's Site within 90 days ILS/DME written request of one (1) technician.	\$ <u>18,676.00</u> /Each
	<u>Base Rate:</u> \$ <u>17,918.00</u> <u>Cost Per Person:</u> \$ <u>758.00</u>	

Item	Description	Unit Price
380	<b>Option 1</b> - On-Site - Dept. of Aviation ILS/DME Richmond, Virginia, within 90 days written request of two (2) or more technicians.	<u>\$28,939.00/Each</u>
	Base Rate: \$27,423.00	
	Cost Per Person: \$ 758.00	
380	<b>Option 2</b> - On-Site - Dept. of Aviation ILS/DME Richmond, Virginia, within 180 days written request of one (1) or more technician.	<u>\$28,181.00/Each</u>
	Base Rate: \$27,423.00	
	Cost Per Person: \$ 758.00	
	<b><u>SPARES</u></b>	
400	<b>Spare Parts Kits for Localizer Unique</b>	<u>\$ 2,073.00/Lot</u>
420	<b>Spare Parts Kits for Glideslope Unique</b>	<u>\$ 1,921.00/Lot</u>
440	<b>Spare Parts Kits for Localizer/Glideslope Common</b>	<u>\$ 4,808.00/Lot</u>
460	<b>Spare Parts Kits for Marker Beacon</b>	<u>\$ 1,602.00/Lot</u>
480	<b>Spare Parts Kits for DME</b>	<u>\$ 3,819.00/Lot</u>